

We claim:

1. A process for preparing diaminodiarlmethanes comprising the steps
 - 5 a) reacting an aromatic amine with a methylene-donating agent in the presence of homogeneous acid catalysts,
 - b) removing the homogeneous acid catalyst from the reaction product,
 - 10 c) working up and purifying the reaction product,which comprises removing the homogeneous acid catalyst from the reaction mixture by adsorption to a solid adsorbent.
- 15 2. A process as claimed in claim 1, wherein the adsorbent is a basic ion exchanger prepared on the basis of higher oligomers of diphenylmethanediamine or on the basis of functionalized support material.
- 20 3. A process as claimed in claim 1, wherein the base strength of the adsorbent differs by +/- 1.0 pK_B units from that of the aromatic amine in aqueous solution.
4. A process as claimed in claim 1, wherein the base strength of the adsorbent differs by +/- 0.5 pK_B units from that of the aromatic amine in aqueous solution.
- 25 5. A process as claimed in claim 1, wherein the acid homogeneous catalyst is desorbed by the aromatic amine and recirculated to the reaction.
6. A process as claimed in claim 1, wherein the reaction in step a) is carried out semicontinuously.
- 30 7. A process as claimed in claim 1, wherein the aromatic amine is selected from the group consisting of aniline and alkylanilines having from 1 to 3 carbons in the alkyl chain.
- 35 8. A process as claimed in claim 1, wherein the aromatic amine is selected from the group consisting of aniline and o-toluidine.
9. A process as claimed in claim 1, wherein the methylene-donating agent is formaldehyde.

10. A process as claimed in claim 1, wherein the formaldehyde is used as aqueous formalin solution or paraformaldehyde.
11. A process as claimed in claim 1, wherein the molar ratio of aniline to form-
5 aldehyde is greater than 2.
12. A process as claimed in claim 1, wherein the molar ratio of acid to aniline is greater than 0.05.
- 10 13. A process as claimed in claim 1, wherein mineral acids are used as homogene-
ous acid catalysts.